A SKETCH OF THE KEILOR PLAINS FLORA.

BY C. S. SUTTON, M.B., B.S.

(Continued from page 123.)

A small sand-plain near Point Cook, continuous with the beach, is tenanted almost exclusively by the Common Bracken,

Pteridium aquilinum, which is decidedly rare elsewhere.

By far the greatest number of halophytes belongs to the mud-loving ("pelophilous") division, which Warming splits up into those of the æstuarium, salt-meadow, salt-bushland, salt-steppe, and salt-swamp, according to the condition of the ground occupied and the height of the plants. Instances of all these associations appear to be present. It is easy to refer some of the plants to their proper places in them; but with others growing indifferently in several situations some difficulty is felt.

In the æstuarium the soil is constantly saturated with salt water, all the plants are able to endure repeated submersion, and nearly all have the outstanding feature of succulence. Here we can safely place the Salicornias, Suæda, Atriplex paludosa, Polycnemum pentandrum. Frankenia lævis, and perhaps also Samolus repens, Wilsonia rotundifolia, Mesembryanthemum tegens, and M. australe.

Salicornia arbuscula, about 2 metres high, in swampy places as near the mouth of the Kororoit Creek, where it is associated with some of the plants just mentioned, and, again, bordering the banks of the Skeleton Water-holes, where it is very exclusive, may be said to constitute a salt-bushland, and, being always very dominant, is known as a "salicornietum."

In the salt-meadow the ground is drier and the growth closer. The "salicornietum" in the Kororoit Creek is gradually becoming changed to a salt-meadow. Here we find Cotula australis, C. filifolia, Angianthus Preissianus, Hydrocotyles, Triglochin mucronata, and Capsella elliptica, with Samolus, Frankenia,

and the Mesembryanthemums.

Further from the water, near the salt-flats, is salt-meadow of a different appearance and taller growth, containing such grasses as Poa cæspitosa, Zoysia pungens, Cynodon dactylon, Agrostis Solandri, Sporobolus virginicus, and Scirpus maritimus, Juncus maritimus, with small herbs like Daucus brachiatus, Selliera radicans, and Cotula reptans. Plagianthus spicatus may also be found in such a situation. In the depressions where brackish water, drying up in summer, leaves a white salt-pan, we have instances in miniature of salt-steppe, with Salicornia australis venturing out a little from the edge of the fringing meadow and a sparse growth of Angianthus Preissianus and

Wilsonias. The most interesting of all the salt plants, and named by Warming as a constituent of the *Littoral Swamp-Forest*, is the white mangrove, *Avicennia officinalis*, only found on the right bank of the Kororoit Creek, from near the racecourse to its mouth. It stands in tidal water just beyond the bank, forming a thick, almost unbroken, hedge, and showing at low water its myriad curious pneumatophores.

Endemic Species.

Comparing the Keilor Plains flora with the plants of adjoining formations, it is found that more than eighty of its species are endemic as far as the Melbourne district is concerned, and most of these are known to occur more or less discontinuously from the Mallee, in the north-west. The comparison also reveals the facts that certain western plants, not recorded from the east of the basalt, stop just short of it, and, further, that very many flourish close to its borders on each side, but not on the plains themselves. This discontinuity of distribution lends special interest to these species, and calls for an explanation, which, indeed, on a little reflection, seems obvious

enough.

Judging from the opinions of Hooker, Wallace, Tate, Diels, and others, it appears to be fairly certain that the vegetation covering the south-eastern corner of Australia has been composed of three or four elements. The first, perhaps, was Antarctic in origin, derived through Tasmania from the south, and now represented mainly by mountain and alpine forms. Its influence on the flora of the basalt is quite insignificant. With these mingled the Indo-Malayan from the north, and eventually from the west, from the opposite south-western corner of the continent—the home of the old original and peculiarly Australian flora—the autochthonic plants drifted in. This mixture of species from three main sources was also augmented by invasions from the desert interior of eremian plants, which, according to Professor Tate,* originate from Indo-Malayan as well as from autochthonic ancestors. Whatever the sequence of physiographic changes or order of arrival may have been however, it seems extremely probable that long before the era of volcanic action the western plants had already established themselves, and that some of them had distribution and range greater than is the case at the present time.

On the occurrence of the lava-flows, which the sketch mapt shows having a general northerly trend, particularly along the Goulburn, Campaspe, and Loddon Rivers, and filling in the western part of the Great Valley of Victoria, large tracts of

^{*} Pr. A. A. A. Sc., 1888. † Vict. Nat., vol. xxxiii., p. 113.

country were overwhelmed, leaving many intervening areas of unsubmerged vegetation more or less widely isolated. These islands were originally more numerous and smaller than now, for, as the late Dr. T. S. Hall pointed out* in connection with the country about Ballarat, the lava sheets were much more extensive, and that particular surface of the bed-rock was probably almost completely covered. When the basalt became capable of supporting vegetation, the new surfaces began to be peopled with plants from all sides, and the eastern drift was resumed, the "endemic" species being evidently derived from the nearest sources in the islands formed by the You Yangs, Brisbane Ranges, the country between the Djerriwarrh and Coimadai Creeks, the Lerderderg, and the high ground running north-east to Macedon and beyond.

Many thousand years must have elapsed since the surface of the basalt became habitable to plants, yet Aster pimeleoides, Pimelea elachantha, Brachyloma daphnoides, and Billardiera cymosa in the vicinity of Bacchus Marsh, Acacia aspera in the Brisbane Ranges, Helipterum exiguum in the You Yangsto give only a few examples—have not been noted further Epacris impressa, Isopogon ceratophyllus, Tetratheca ciliata, Helichrysum obcordatum (Lerderderg and Greensborough), Eucalyptus camphora (Brisbane Ranges and Doreen), E. globulus (You Yangs and Lower Yarra), and very many others occur immediately on both sides, but seem to shun the basalt. none of these plants is the power of invasion so very deficient that it can be said for that reason to have failed to establish itself on the basalt, and it must be assumed that either the uncongenial nature of the substratum or the general unsuitability of the habitat has prevented an advance.

Whether the same species have failed to invade like basaltic surfaces from other neighbouring formations it would be interesting to know, and the matter might well engage the attention of our members whenever opportunity comes to them.

Very unequal progress has been made by those plants which have already gained a footing. Eucalyptus Behriana and Melaleuca parviflora, with the eremian Geococcus and Bassias flourishing in their shade, have only just advanced across the Djerriwarrh Creek. Claytonia volubilis and Calotis lappulacea have been found no nearer to us than Anthony's Cutting: Templetonia Muelleri and Acacia montana at Melton, and Teucrium racemosum at Little River. Casuarina Luehmanni is strung out from south of Parwan in a line running just east of Melton and north to near the upper part of the Kororoit

Creek. Cryptandra amara appears only between Diggers' Rest and Bulla. Other, and commoner, plants that have gone further, some to the eastern limits of the plains, are Atriplex Muelleri, A. semibaccatum, Chenopodium microphyllum, Ptilotus macrocephalus, Pimelea serpillifolia, Eucalyptus hemiphloia, and several composites, which, with superior powers of dispersal, might have been expected to cross over to the forest country and the sands. Some species, now infrequent and isolated, no doubt in earlier days were much more abundant. Prostanthera nivea is still near Station Peak, but has long since disappeared from Newport, where Mr. St. John had noted it many years ago. Lasiopetalum Baueri is recorded in the "Fragmenta" as from the You Yangs and neighbouring coast, but in recent years it has not been seen there, and, as far as we know, exists only at Red Bluff, and, according to Mr. Hart, also at Cheltenham. Eutaxia empetrifolia, a typical Mallee plant, appears to have made the passage across the plains, but probably, like all the western plants now occurring on the eastern side, was already there before the volcanic era.

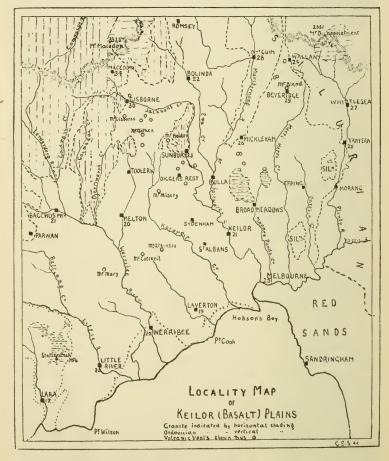
Of the species entering the area by way of the watercourses, Olearia decurrens has been noted at Bulla, Callitris verrucosa just beyond Keilor. The Cassia still holds its own here and there, and may be seen to best advantage on the west bank of the river south of Keilor. Muehlenbeckia Cunninghamii, recorded as growing at the Yarra mouth, is still to be found at Maribyrnong, and a patch of real "lignum" swamp occurs to the east of Rockbank. Pelargonium Rodneyanum, Zygophyllum Billardieri, Myoporum deserti, and Acacia retinodes, all still quite common in many of the creeks, are almost as accessible.

In compiling the appended census, totalling 444 plants, recourse has been had to the *Victorian Naturalist*, the "Flora Australiensis," and the "Fragmenta," but no other likely source of information has been neglected. Special thanks are due to Mr. P. R. H. St. John, who accompanied the author over many of the five hundred miles or so traversed in making the survey of the area, and placed at his disposal field-notes taken during the last fifteen years. For this and for much other assistance in efforts to better his acquaintance with our flora he begs to take this opportunity of expressing his indebtedness. Mr. T. S. Hart also has been kind enough to supply data, which have been gladly used.

Inasmuch as it comprises only flowering plants and ferns, the list is incomplete. Alien plants also, which, by reason of the wider disturbance of the surface and the "open" nature of the formation, are more in evidence here than on the "sands," have been ignored. Even as it is, it must, con-

sidering the amount of ground still uncovered, be greatly lacking, but it will at least serve as a basis for any future compilation that may be made.

The plan adopted in making up the Sandringham census * has been departed from in this case, and that of Mr. Maiden, in his recent "Census of New South Wales Plants," has been followed; so that the first name is the most recent and the one in brackets that of the "Key to the System of Victorian Plants." On the accompanying locality map the average annual rainfall is indicated in inches.



*Sutton, "Notes on the Sandringham Flora," Vict. Nat., vol. xxviii., p. 5, and vol. xxix., p. 79.

Jan.,]

CENSUS OF KEILOR PLAINS FLORA.

r indicates riparian and canyon plants; c coastal; h halophytes, and therefore also coastal; a aquatic and semi-aquatic (other than halophytes); e endemic as regards the Melbourne district; * rare, only in outskirts or very restricted in range. Where unlettered the species are of the grass-land, but not necessarily restricted to it. F.A., "Flora Australiensis"; P.I.C.V., "Plants Indigenous to the Colony of Victoria"; Frag., "Fragmenta Phytographiæ Australiæ."

PTERIDOPHYTA-

FILICALES—

Polypodiacea-

Asplenium flabellifolium, Cav.—Rat-tail Spleenwort.

re Pleurosorus rutifolius (R. Br.), Fée. (Grammitis rutifolia, R. Br.) Common Rue-fern.

r * Doodia aspera, R. Br. (Woodwardia aspera, Mett.)-Rasp-fern. Somerton.

caudata (Cav.) R. Br. (W. caudata, Cav.)—Small Rasp-fern. Broadmeadows.

r * Pellæa falcata (R. Br.), Fée. (Pteris falcata, R. Br.)—Sickle-fern. Cheilanthes tenuifolia (Burm.), Sw.—Common Rock-fern. r Adiantum Æthiopicum, L.—Common Maidenhair.

Pteridium aquilinum, L. (Pteris aquilina, L.)-Common Bracken.

a Azolla filiculoides, Lam., var. rubra, Diels. (A. rubra, R. Br.)-Red Azolla.

Marsileaceæ-

a * Marsilea Brownii, A. Br. (M. quadrifolia, Benth., non L.)—Nardoo.

Ophioglossacea-

Ophioglossum vulgatum, Benth.—Adder's Tongue.

LYCOPODIALES-

Lycopodiacea-GYMNOSPERMÆ—

Phylloglossum Drummondii, Kunze.—Drummond Club-moss.

CONIFERÆ-

Pinaceæ-

r e * Callitris verrucosa, R. Br.—Cypress or Turpentine Pine. Sydenham.

ANGIOSPERMÆ-

MONOCOTYLEDONEÆ-

Typhacea-

ar Typha angustifolia, L.—Bulrush.

Potamogetonacea-

h Zostera nana, Mertens.—Dwarf Grass Wrack.

a Potamogeton ochreatus, Raoul. (P. obtusifolius, M. and K.)—Blunt

Pond Weed. Werribee.
tricarinatus, F. v. M. (P. natans, Benth., non L.)—
Floating Pond Weed.
pectinatus, L.—Fennel Pond Weed.

h Ruppia maritima, L.—Sea Tassel.

h Cymodocea antarctica, Lab. (C. zosterifolia, F. v. M.)—Sea Nymph.

he* Lepilæna Preissii, F. v. M.—Slender Water Mat. Altona.

Iuncaginacea-

a Triglochin minutissima, F. v. M.—(T. centrocarpa, Hook.)—Dwarf Arrow Grass.

striata, R. and P .- Streaked Arrow Grass. he mucronata, R. Br.—Prickly Arrow Grass. ,,

procera, R. Br., var. dubia, Benth.-Giant Arrow Grass. α

Alismatacea-

a * Alisma plantago, L.—Greater Water Plantain.

a e * Damasonium minus, R. Br. (D. australe, Salisb.)—Star Fruit.

Hydrocharitacea-

ar Ottelia ovalifolia, Rich. -- Ottelia. ar Vallisneria spiralis, L.—Eel-grass.

h Halophila ovalis, Hook. f. (H. ovata, Gaud.)—Sea Wrack.

Graminea-

Anthistiria imberbis, Retz. (A. ciliata, Benth., non L.)-Kangaroo Grass.

c Zoysia pungens, Willd.—Prickly Couch Grass.

Paspalum distichum, L.

e Panicum effusum, R. Br. - Hairy Panic Grass. Little River.

decompositum, R. Br.—Umbrella Grass.

c Spinifex hirsutus. Lab. - Hairy Spinifex.

Microlæna stipoides, R. Br. (Ehrharta stipoides, Lab.) - Weeping Grass. Stipa setacea, R. Br.—Corkscrew Grass.

semibarbata, R. Br.-Fibrous Spear Grass.

r Echinopogon ovatus, Beauv.—Hedgehog Grass. c Sporobolus virginicus, Kunth.—Virginian Rat-tail Grass.

Agrostis venusta, Trin.—Graceful Bent Grass.

c Calamagrostis æmula, Steud. (Agrostis Solandri, F. v. M.) - Toothed Bent Grass.

quadriseta, Spreng. (A. quadriseta, R. Br.)-Reed Bent Grass.

Dichelachne crinita, Hook.-Long-hair Plume Grass.

Danthonia penicillata, F. v. M.—Common Wallaby Grass.

Cynodon Dactylon, Rich.—Indian Couch Grass. Chloris truncata, R. Br.—Windmill Grass.

a Phragmites communis, Trin. (Arundo phragmites, L.)—Common Reed. Eragrostis Brownii, Nees.—Common Love Grass.

c Distichlis maritima, Raf. - Salt Grass.

Poa cæspitosa, G. Forst.—Tufted Meadow Grass. ,, Labillardieri, Steud. - Blue Meadow Grass.

" syrtica, F. v. M.-Quicksand Grass.

a Glyceria fluitans, R. Br. (Poa fluitans, Scop.) - Manna Grass. c Festuca littoralis, Lab.—Coast Fescue.

Lepturus incurvatus, Trin.—Curved Snake-tail Grass.
 c ,, cylindricus, Trin. Smaller Snake-tail Grass.

Agropyrum scabrum, Beauv.—Common Wheat Grass.

Cyperaceic-

a Cyperus tenellus, L.—Delicate Leaf Rush.

a Eleocharis sphacelata, R. Br.—Tall Spike Rush.

acuta, R. Br.-Common Spike Rush. a Scirpus fluitans, L .- Floating Club Rush.

inundatus, Spreng.—Swamp Club Rush. a

nodosus, Rottb.-Knotted Club Rush. lacustris, L.—Lake Club Rush. α 22

maritimus, L.-Saltmarsh Club Rush.

a Scheenus capillaris, F. v. M.—Bristle Bog Rush.

apogon, R. and S.-Fluke Bog Rush. Broadmeadows.

c Cladium filum, R. Br.—Awned Twig Rush.

e * Lepidosperma laterale, R. Br.—Broad Sword Sedge. Little River, F. A.

r Carex inversa, R. Br.—Knob Sedge. Broadmeadows.
a ,, appressa, R. Br. (C. paniculata, F. v. M.)—Panicle Sedge. Little River.

pseudo-cyperus, L.—Galingale Sedge. pumila, Thunb.—Spreading Sedge. ,,

Lemnaceæ-

a Lemna minor, L.—Lesser Duckweed.

a Wolffia arrhiza, Wimm. (W. Michelii, Schl.)—Tiny Duckweed.

Centrolepidacea-

a Centrolepis polygyna, Hieron.—Mossy Centrolepis.

strigosa, R. and S.—Hairy Centrolepis. Near You Yangs. Brizula gracilis, Hieron. (Aphelia gracilis, Sond.)—Slender Aphelia. ,, pumilio, Hieron. (Aphelia pumilio, F. v. M.)-Dwarf Aphelia.

Juncacea-

Luzula campestris, D. C.-Field Wood Rush.

a Juneus bufonius, L.—Toad Rush.

effusus, L. (J. communis, E. Mey.)-Common Rush.

maritimus, Lam., var. Australiensis, Buch. - Shore Rush. plebeius, R. Br. (J. homalocaulis, F. v. M.)-Wiry Rush.

Liliaceæ–

Burchardia umbellata, R. Br.—Milkmaids.

Anguillaria dioica, R. Br. (Wurmbea dioica, F. v. M.)—Early Nancy.

Bulbine bulbosa, Haw.—Common Yellow Lily.

Dichopogon strictus, Bak. (Arthropodium strictum, R. Br.)—Large Vanilla Lily.

Arthropodium paniculatum, R. Br.—Pale Vanilla Lily.

* Chamæscilla corymbosa, F. v. M.—Blue Squill. Gellibrand Hill.

Tricoryne elatior, R. Br.-Yellow Autumn Lily.

Cæsia vittata, R. Br.—Banded Grass Lily.

parviflora, R. Br.—Small-flowered Grass Lily. Dianella lævis, R. Br. (D. longifolia, R. Br.)-Long-leaved Flax Lily.

,, revoluta, R Br.—Spreading Flax Lily. Lomandra filiformis, J. Britt. (Xerotes Thunbergii, F. v. M.)—Wattle Mat Rush.

Amaryllidacea

Hypoxis glabella, R. Br. -- Yellow Stars.

Orchidacea-

Thelymitra ixioides, Swartz.—Dotted Hood Orchid. ,, aristata, Lindl.—Tall Hood Orchid. Werribee. longifolia, R. and G. Forst.-Long-leaved Hood Orchid.

Diuris punctata, Sm., var. alba, R. Br.—White Diuris.

palustris, Lindl.—Swamp Diuris. Laverton. maculata, Sm.—Leopard Orchid. Gellibrand Hill.

,,

pedunculata, R. Br.—Snake Orchid.

sulphurea, R. Br.-Tiger Orchid. Little River.

Prasophyllum patens, R. Br.—Scented Leek Orchid.
,, fuscum, R. Br.—Tawny Leek Orchid.

Microtis porrifolia, R. Br.—Leek Microtis. Sydenham. Pterostylis mutica, R. Br. - Small Green-hoods. Broadmeadows, Melton.

curta, R. Br.—Blunt Green-hoods. S. Morang.

,, pedunculata, R. Br.—Maroon-hoods. S. Morang. Eriochilus autumnalis, R. Br.—Autumn Orchid. Bulla. Caladenia Patersoni, R. Br.—Spider Orchid. S. Morang.

carnea, R. Br.-Pink Fingers. Somerton.

ccerulea, R. Br.-Blue Caladenia. S. Morang. ,, deformis, R. Br. - Blue Fairies. Campbellfield.

* Glossodia major, R. Br.-Large Glossodia. S. Morang.

DICOTYLEDON EÆ-

Casuarinea-

Casuarina stricta, Ait. (C. quadrivalvis, Lab.)—Drooping Sheoak. ,, Luehmanni, R. T. B.—Flat-fruited Buloke. *Parwan*.

suberosa, O. and D.—Black Sheoak. ,,

Urticaceæ-

r Urtica incisa, Poir.—Scrub Nettle.

r Parietaria debilis, G. Forst.—Forest Pellitory.

Proteacea-

r* Persoonia juniperina, Lab. - Prickly Geebung.

r * Grevillea rosmarinifolia, Cunn.—Rosemary Grevillea. Werribee.

* Banksia marginata, Cav.—Silver Banksia. Little River.

* ,, integrifolia, L.—Coast Banksia. Little River.

Santalacea-

Exocarpus cupressiformis, Lab.—Cherry Ballart.

Thesium australe, R. Br.—Austral Thesium. Braybrook.

Loranthacea-

Loranthus celastroides, Sieb. - Common Mistletoe. Greenvale.

exocarpi, Behr.-Harlequin Mistletoe. Bulla.

Werribee. linophyllus, Fenzl.—Slender Mistletoe. pendulus, Sieb.—Hanging Mistletoe. S. Morang.

,,

Polygonaceie-

е

a Rumex Brownii, Camp.—Swamp Dock.

flexuosus, Sol.—Twisted Dock.

bidens, R. Br.-Mud Dock.

Polygonum plebejum, R. Br.—Small Knotweed. prostratum, R. Br.—Trailing Knotweed.

hydropiper, L.—Pepper Knotweed. ,, minus, Huds.-Slender Knotweed. α 2.9

subsessile, R. Br.-Hairy Knotweed.

cr Muehlenbeckia adpressa, Meissn., var. rotundifolium, Benth.—Climbing Lignum.

Cunninghamii, F. v. M.—Tangled Lignum. re

re* Emex australis, Steinh .- Spiny Emex. Jackson's Creek.

Chenopodiacea-

h Hemichroa pentandra, R. Br. (Polyenemon pentandrum, F. v. M.)-Trailing Jointweed.

c Rhagodia Billardieri, R. Br.—Coast Saltbush.

Gaudichaudiana, Moq.—Cottony Saltbush. re 9 9

hastata, R. Br.—Saloop Saltbush. c ,, nutans, R. Br.-Nodding Saltbush.

Chenopodium album, L.-Fat Hen.

murale, L.-Nettle-leaved Goosefoot.

,, triandrum, Forst. (C. microphyllum, F. v. M.)—Small-leaved Goosefoot. e

glaucum, L.—Pale Goosefoot. carinatum, R. Br.—Keeled Goosefoot.

Atriplex cinereum, Poir.—Grey Saltbush.

semibaccatum, R. Br.—Berry Saltbush. e

Muelleri, Benth.—Lagoon Saltbush. 2.2 paludosum, R. Br - Marsh Saltbush. h

, crystallinum, J. Hook.—Glistening Saltbush.
Kochia villosa, Lindl.—Silky Bluebush.
Bassia sclerolænoides, F. v. M.—Woolly-fruited Saltbush. Djerriwarrh Cr.,
, diacantha, F. v. M.—Two-spined Saltbush. Djerriwarrh Creek.

Enchylæna tomentosa, R. Br.—Ruby Saltbush.

ce* Threlkeldia diffusa, R. Br.—Wallaby Saltbush.

h Arthrocnemum arbuscula, Moq. (Salicornia arbuscula, R. Br.)—Shrubby Glasswort.

h Salicornia australis, Sol.—Sea Glasswort.

h Suæda maritima, Dum.—Seablite. h Salsola kali, L.-Prickly Saltwort. Amarantacea-

e Ptilotus macrocephalus, Poir.—Featherhead.

,, spathulatus, Poir. - Pussytails.

Alternanthera triandra, Lam., var. nodiflora, F. v. M.-Joyweed.

Aizoaceæ-

c Mesembryanthemum æquilaterale, Haw.—Angular Pigface.

australe, Sol.—Rounded Pigface. ,, h tegens, F. v. M .- Small Pigface.

h Tetragonia expansa, Murray-New Zealand Spinach. implexicoma, Hook. f.—Bower Spinach.

Portulacaceie-

Portulaca oleracea, L.—Common Purslane. Calandrinia calyptrata, Hook. f. (Claytonia calyptrata, F. v. M.)—Pink Purslane.

volubilis, Benth. (Claytonia volubilis, F. v. M.)-Twining Purslane. Anthony's Cutting.

a Claytonia australasica, Hook. f.—White Purslane.

Caryophyllacea-

r Stellaria pungens, Brong.—Prickly Starwort.

palustris, Retz (S. glauca, With.)—Marsh Starwort.

Sagina apetala, L.—Small Pearlwort. c Spergularia rubra, Camb.—Sand Spurrey.

Polycarpon tetraphyllum, Loefl.—Four-leaved Allseed.

e * Scleranthus diander, R. Br.-Tufted Knawel. Werribec, F. A.

Ranunculacea-

cr Clematis microphylla, D.C.-Smaller Clematis.

ar Ranunculus aquatilis, L.—Water Buttercup.

lappaceus, Sm.—Common Buttercup. rivularis, B. and S.-River Buttercup. ar

Lauraceæ-

* Cassytha melantha, R. Br.-Large Dodder-laurel. Djerriwarrh Creek.

Crucifera-

a Cardamine laciniata, F. v. M.—Jagged Bitter Cress.

e * Blennodia nasturtioides, Benth. (Sisymbrium nasturtioides, F. v. M.)— Yellow Blennodia. Altona.

e * Geococcus pusillus, Drum.-Earth-cress. Djerriwarrh Creek.

a c Capsella procumbens, Fries. (C. elliptica, C. A. Meyer).—Oval Shepherd's Purse.

Lepidium ruderale, L.—Rubble Pepper-cress.

h Cakile maritima, Scop. - Sea Rocket.

Droseracea-

Drosera glanduligera, Lehm.—Scarlet Sundew.

peltata, Sm.—Erect Sundew.

auriculata, Back. - Tall Sundew. 99

Planchoni, Hook. f. (D. Menziesii, R. Br., var. albiflora, ,, Benth.)-Climbing Sundew. Studley Park.

Whittakeri, Planch.—Scented Sundew.

Crassulaceæ-

Tillæa verticillaris, D.C.—Austral Stonecrop.

purpurata, Hook. f.-Purple Stonecrop. recurva, J. Hook.—Swamp Stonecrop.

macrantha, Hook. f.-Long-flowered Stonecrop. ,,

Pittosporaceæ-

Bursaria spinosa, Cav.—Sweet Bursaria.

Rosaceæ---

Acæna ovina, Cunn.—Sheep's Burr.

sanguisorbe, Vahl.-Bidgee Widgee.

Leguminosær* Acacia diffusa, Edw.—Spreading Acacia. S. Morang. armata, R. Br.—Hedge Acacia. acinacea, Lindl.—Gold Dust Acacia. ,, montana, Benth.-Mountain Acacia. Melton. 2.2 retinodes, Schl.-Wirilda. re ,, pycnantha, Benth.—Golden Wattle. melanoxylon, R. Br.-Blackwood. implexa, Benth. - Lightwood. ,, verticillata, Willd.—Prickly Acacia. decurrens, Willd.—Early Black Wattle. 99 ,, dealbata, Link.—Silver Wattle. re* Cassia eremophila, Cunn.—Desert Cassia. a Viminaria denudata, Sm.—Golden Spray. * Daviesia latifolia, R. Br.—Broad-leaved Bitter-pea. Epping.

* ,, corymbosa, Sm.—Narrow-leaved Bitter-pea. Epping. * Pultenæa daphnoides, Wendl.—Long-leaved Bush-pea. S. Morang, Eutaxia empetrifolia, Schl.—Eutaxia. * Dillwynia ericifolia, Sm.—Heathy Parrot-pea. floribunda, Sm. - Crowded Parrot-pea. Braybrook. cinerascens, R. Br. - Grey Parrot-pea. Digger's Rest. Bossiæa prostrata, R. Br.—Prostrate Bossea. e * Templetonia Muelleri, Benth.—Leafy Templetonia. "Milton (sic), near Port Phillip," F.A. e Lotus australis, Andr.—Austral Trefoil. r Indigofera australis, Willd.—Austral Indigo. e* Psoralea tenax, Lindl.—Tough Scurf-pea. Braybrook and St. Albans.
e* ,, adscendens, F. v. M.—Black Scurf-pea. Altona.
e* Swainsona lessertiifolia, D.C.—Purple Swainsona. Braybrook.
Glycine clandestina, Wendl.—Twining Glycine. Latrobeana, Benth.—Purple Glycine. tabacina, Benth. - Variable Glycine. Kennedya prostrata, R. Br.—Scarlet Coral-pea. monophylla, Vent.—Purple Coral-pea. · Geraniacea-Geranium dissectum, L.—Cut-leaved Geranium.

,, pilosum, Forst.—Hairy Geranium. Erodium cygnorum, Nees.—Blue Erodium. Pelargonium australe, Willd.—Austral Pelargonium. Rodneyanum, Lindl.—Rosy Pelargonium. Oxalis corniculata, L.—Yellow Wood-sorrel.

Linacea-

Linum marginale, Cunn.-Wild Flax.

Zygophyllacea—

cer Zygophyllum Billardieri, D.C.-Coast Twinleaf. Tribulus terrestris, L —Caltrops.

Rutacea-

r Correa speciosa, Andr., var. glabra, Benth.—Smooth Correa.

Polygalacea-

Comesperma ericinum, D.C.—Heath Milkwort. polygaloides, F. v. M.—Small Milkwort. "Near Station Peak," P.I.C.V.

Euphorbiaceæ-

e Euphorbia Drummondi, Boiss.—Flat Spurge. Poranthera microphylla, Brong.—Small-leaved Poranthera.

* Beyeria opaca, F. v. M.—Small Wallaby-bush.

Stackhousiacea-

Stackhousia linariifolia, Cunn.—Creamy Stackhousia. viminea, Sm. - Slender Stackhousia.

Sapindacea-

Dodonæa viscosa, Jacq., var. spathulata, Benth.—Giant Hopbush.

Rhamnaceæ-

r * Pomaderris apetala, Lab.—Hazel Pomaderris. Digger's Rest.

* Cryptandra amara, Sm.—Prickly Cryptandra. Digger's Rest. Bulla.

Malvaceæ-

r e * Lavatera plebeja, Sims-Austral Hollyhock. Werribee.

r * Plagianthus pulchellus, A. Gray-Hemp Bush. ce* spicatus, Benth.—Salt Plagianth.

Sterculiacea--

Lasiopetalum Baueri, Steetz.—White Velvet Bush. "Ad oras marinas haud procul a montibus You Yangs" (Fullagar), Frag. X.

* Hibbertia stricta, R. Br.—Erect Guinea-flower. Once at Newport.

Guttitera-

Hypericum japonicum, Thunb.—Small St. John's Wort.

Frankeniaceæ.-

h Frankenia pauciflora, D.C. (F. lævis, L.)—Sea-heath.

Violaceee-

* Viola hederacea, Lab. Common Violet. Studley Park.

r Hymenanthera dentata, R. Br. (H. Banksii, F. v. M.). Tree Violet.

Thymeleaceæ—

Pimelea glauca, R. Br.—Smooth Riceflower. humilis, R. Br.-Dwarf Riceflower.

serpyllifolia, R. Br.—Thyme Riceflower. curviflora, R. Br.—Curved Riceflower.

stricta, Meissn.-Erect Riceflower. Darebin Creek.

Lythraceee -

ar* Lythrum salicaria, L.-Purple Loosestrife. Werribee.

hyssopifolia, L.—Small Loosestrife.

Mvrtace@-

r * Eucalyptus amygdalina, Lab.—Narrow-leaved Peppermint.

macrorrhyncha, F. v. M. -Red Stringybark. ,,

melliodora, Cunn.-Yellow Box. ,,

leucoxylon, F. v. M.-Yellow Gum. Fackson's Creek. ,,

polyanthemos, Schau.—Red Box. S. Morang. ,,

hemiphloia, F. v. M.—Grey Box. ,, re*

,,

Behriana, F. v. M.—Bull Mallee. *Djerriwarrh Creek* ovata, Lab. (E. paludosa, R. T. B., E. acervula, Hook. f.) ,, —Swamp Gum viminalis, Lab.—Manna Gum. rostrata, Schl.—Red Gum.

r Leptospermum lanigerum, Sm.—Woolly Tea-tree.

r Callistemon paludosus, F. v. M. (C. salignus, var. australis, Benth.)-Willow Bottlebrush.

er* Melaleuca parviflora, Lindl.-Moonah. Djerriwarrh Creek.

er * Calycothrix tetragona, Lab. - Common Fringe Myrtle. Digger's Rest.

Enotheracece—

a Epilobium glabellum, G. Forst. (E. tetragonum, L.)-Smooth Willowherb.

Halorrhagaceæ-

Halorrhagis tetragyna (Lab.), Hook. f.—Poverty Raspwort.

heterophylla, Brong.—Irregular Raspwort.

digyna, Lab. (H. mucronata, Benth.)-Prickly Raspwort. Near You Yangs.

a Myriophyllum propinquum, A. Cunn. (M. variæfolium, Hook. f.)-Red Water Milfoil.

verrucosum, Lindl.-Rough Water Milfoil.

Muelleri, Sond .- Slender Water Milfoil. Werribee. αe

Umbelliferæ-

Hydrocotyle hirta, R. Br.—Hairy Pennywort.

tripartita, R. Br.-Slender Pennywort. ,, laxiflora, D.C.—Stinking Pennywort. ,,

callicarpa, Bunge.—Small Pennywort. capillaris, F. v. M.—Thread Pennywort. ,, ,,

Asiatica, L.-Indian Pennywort.

* Xanthosia dissecta, Hook. f.-Cut-leaved Xanthosia. Somerton.

Eryngium rostratum, Cav.-Blue Eryngo. oreomyrrhis andicola, Endl.—Andean Carraway.

h Apium prostratum, Lab.—Sea Celery.

,, leptophyllum, F. v. M.—Slender Celery. Darebin Creek. Daucus brachiatus, Sieb. - Austral Carrot.

Epacridaceee-

r Styphelia humifusa, Pers.—Cranberry Heath. Bulla. strigosa, Sm. - Peach Heath. Jackson's Creek.

Myrsinacea-

r Rapanea variabilis, Mez. (Myrsine variabilis, R. Br.) - Mutton-wood.

Primulacee-

h Samolus repens, Pers.—Creeping Brookweed.

Plumbaginacee-

c * Statice australis, Spreng. (S. Taxanthema, R. and S.)—Yellow Sealavender.

Loganiacea-

Mitrasacme distylis, F. v. M.—Tiny Mitrewort. Beyond Little River.

Gentianace@-

Sebæa ovata, R. Br. - Yellow Sebæa.

albidiflora, F. v. M.—White Sebæa.

Erythræa australis, R. Br. - Austral Centaury.

Convolvulacea-

Convolvulus erubescens, Sims.-Maiden's Blush. Dichondra repens, R. G. Forst.—Kidney Weed.

c Wilsonia humilis, R Br.—Silky Wilsonia.

rotundifolia, Hook.—Round-leaved Wilsonia. c c Cuscuta australis, R. Br.—Austral Dodder.
c ,, tasmanica, Eng.—Tasman Dodder. Altona.

Borraginace@—

Cynoglossum suaveolens, R. Br.—Sweet Houndstongue.

r Verbena officinalis, L.—Common Vervain. S. Morang. Deep Creek. he* Avicennia officinalis, L.-White Mangrove. Kororoit Creek.

r Mentha australis, R. Br. - River Mint.

,, gracilis, R. Br.—Slender Mint. Bulla, Brunella vulgaris, D. C.—Selfheal.

r* Scutellaria humilis, R. Br.—Dwarf Skullcap. Jackson's Creek.

e * Prostanthera nivea, Cunn.—Snowy Mint Bush. Once at Newport.

e Teucrium racemosum, R. Br.—Grey Germander. Little River.

,, corymbosum, R. Br.—Forest Germander. S. Morang.

Ajuga australis, R. Br. — Bugle.

Solanaceæ-

Solanum nigrum, L.—Black Nightshade.

,, aviculare, G. Forst. - Kangaroo Apple.
Nicotiana suaveolens, Lehm.—Austral Tobacco.

Scrophulariacece-

e* Mimulus gracilis, R. Br.—Slender Monkeyflower. "Extendit a Portu Phillipi," Frag. VI. Station Peak, F.A.

ar ,, repens, R. Br.—Creeping Monkeyflower.

a Gratiola peruviana, L.—Brooklime Gratiola.
 a * Limosella aquatica, L.—Common Mudwort.
 Veronica gracilis, R. Br.—Slender Speedwell

,, calycina, R. Br.—Cup Speedwell. Little River.

Lentibulariace@-

ar Utricularia dichotoma, Lab. - Purple Bladderwort.

Myoporacea-

cr Myoporum insulare, R. Br.—Coast Boobialla.

cr, viscosum, R. Br.—Sticky Boobialla.

c * ,, humile, R. Br.—Creeping Myoporum. Once at Newport.

Plantaginacea-

Plantago varia, R. Br.-Variable Plantain.

Rubiacea -

r * Coprosma Billardieri, Hook. f.—Prickly Coprosma. S. Morang. Asperula oligantha, F. v. M.—Common Woodruff.

r Galium umbrosum, Sol., var. Gaudichaudi, F. v. M.—Rough Bedstraw.

r ,, australe, D.C.—Tangled Bedstraw.

Caprifoliaceæ-

r Sambucus Gaudichaudiana, D.C.—White Elderberry.

Campanulacea-

a Lobelia anceps, Thunb.—Angled Lobelia.

c * ,, purpurascens, R. Br.—Purple Lobelia. Altona. * ,, pratioides, Benth.—Poison Lobelia. Little River. e * ,, platycalyx, F. v. M.—Fleshy Lobelia. Yarra Mouth

e ., concolor, R. Br.

a Isotoma fluviatilis, F. v. M.—Swamp Isotoma. Wahlenbergia gracilis, D.C.—Austral Bluebell.

Goodeniacea-

e Velleia paradoxa, R. Br. (Velleya).—Spurred Velleia.

r Goodenia ovata, Sm.—Hop Goodenia.

,, pinnatifida, Schl.—Cut-leaved Goodenia.

heteromera, F. v. M.—Spreading Goodenia. Little River.

e* ,, gracilis, R. Br.—Slender Goodenia. Little River.

c a Selliera radicans, Cav.—Swampweed.

c * Scævola suaveolens, R. Br. - Scented Fanflower. Near Point Cook.

Candolleaceæ-

Candollea serrulata, Lab.—Grass Trigger Plant.

,, despecta, F. v. M.—Small Trigger Plant. Beyond Little River.

Levenhookia dubia, Sond. (Leewenhoekia). - Hairy Stylewort.

Compositar * Olearia ramulosa, Benth. (Aster ramulosus, Lab.)—Twiggy Aster. myrsinoides, F. v. M. (A. myrsinoides, Lab.)-Myrsine Aster. ,, S. Morang. decurrens, Benth. (A. decurrens, Cunn.)-Clammy Aster. Bulla. glutinosa, Benth. (A. glutescens, F. v. M.)-Sticky Aster. Vittadinia australis, A. Rich.—New Holland Daisy. e Minuria leptophylla, D.C.—Silky Minuria.
* Calotis scabiosifolia, S. and F. v. M.—Rough Bur Daisy. Little River. scapigera, Hook. - Tufted Bur Daisy. Yarra Mouth. anthemoides, F. v. M.-You Yangs Bur Daisy. "Near Station 9 9 Peak.lappulacea, Benth.—Common Bur Daisy. Anthony's Cutting. Lagenophora emphysopus, Hook. f .- Dwarf Bottle-Daisy. Brachycome diversifolia, F. v. M.—Tall Daisy. radicans, Steetz.—Marsh Daisy. ае ,, graminea, F. v. M.-Grass Daisy. ,, exilis, Sond.—Slender Daisy. ,, decipiens, Hook. f.—Common Daisy. cardiocarpa, F. v. M.—Swamp Daisy. α . . ciliaris, Less.—Bushy Daisy. 22 calocarpa, F. v. M.—Desert Daisy. ,, * chrysoglossa, F. v. M —Golden Daisy. St. Albans. multifida, D.C. - Blue Daisy. r Siegesbeckia orientalis, L.—Indian Weed. e * Eclipta platyglossa, F. v. M.—Yellow Twinheads. Werribee. h Cotula filifolia, Thunb. -- Slender Cotula. ,, coronopifolia, L. – Swamp Cotula. ,, australis, Hook, f. — Common Cotula. reptans, Benth.—Creeping Cotula. Centipeda Cunninghamii, F. v. M.-Erect Sneezeweed. e * Isoetopsis graminifolia, Turcz.—Grass Cushion. e * Myriocephalus rhizocephalus, Benth.—Dwarf Thickheads. c e Angianthus Preissianus, Benth.—Flat Cupflower.
c * Calocephalus Brownii, F. v. M —Coast Whitebush.
lacteus, Less.—Milky Beauty Heads.
c citreus, Less.—Lemon Beauty Heads. Craspedia Richea, Cass.—Big Billybuttons. chrysantha, Benth.-Golden Buttons. r * Cassinia longifolia, R. Br. - Shining Cotton-wood. S. Morang. aculeata, R. Br.—Common Cotton-wood. Rutidosis leptorrhynchoides, F. v. M.—Button Wrinklewort, ,, pumilo, Benth.—Small Wrinklewort. Millotia tenuifolia, Cass. - Soft Millotia. e * Ixiolæna leptolepis, Benth.—Stalked Ixiolæna. Podotheca angustifolia, Less.—Narrow-leaved Podotheca. *Near Melbourne*, F. A. Podolepis acuminata, R. Br.—Large Podolepis. e * Podotheca Leptorrhynchos squamatus, Less.—Scaly Buttons. tenuifolius, F. v. M.—Ślender Buttons. elongatus, D.C.-Lanky Buttons. Near Melbourne, F. A. Helichrysum scorpioides, Lab.—Curling Everlasting. rutidolepis, D.C.—Pale Everlasting. apiculatum, D.C.—Pointed Everlasting. 22 semipapposum, D.C.—Downy Everlasting. re* Helipterum anthemoides, D.C.—Chamomile Sunray. Sydenham. corymbiflorum, Schl.—White Sunray. Sydenham, dimorpholepis, Benth.—Common Sunray.

Gnaphalium luteo-album, L.—Jersey Cudweed.

Gnaphalium Japonicum, Thunb.—Japanese Cudweed. Stuartina Muelleri, Sm.—Spoon Cudweed. Erechtites arguta, D.C.—Rough Fire-weed.

quadridentata, D.C.—Cotton Fire-weed.

, quadridentata, D.C.—Cotton Fire-weed.

* Senecio lautus, Sol.—Variable Senecio.

* vagus, F. v. M.—Saw Senecio.

* ,, dryadeus, Sieb.—Fire-weed Senecio.

* ,, brachyglossus, F. v. M.—Slender Senecio.

* ,, Cunninghamii, D.C.—Branching Senecio. Digger's Rest. Arctotis australiensis, Beauv. (Cymbonotus Lawsonianus, Gaud.) Microseris Fosteri, Hook. f.-Murrnong Yam.

THE EXHIBITION OF WILD-FLOWERS.

THE following, which will be of interest to members and other readers, is a copy of a letter sent to the Y.M.C.A. prior to the holidays:—

"12th December, 1916.

"C. F. Crosby, Esq.,

"President Young Men's Christian Association, Melbourne. "Dear Sir,-We have very much pleasure, on behalf of the Field Naturalists' Club of Victoria, in enclosing herewith, for your acceptance, as a donation to your Association's National Fund for work among our soldiers, a cheque for the sum of £131 6s. 10d.

"The amount is the total net proceeds derived from the Club's annual wild-flower show, which was held in the Melbourne Town

Hall on 3rd October last.

"The Club appreciates very highly your Association's work on behalf of the soldiers, and is also grateful to all who assisted to make the flower show such a success as to enable so satisfactory a donation to be made to the fund mentioned.

"We are, yours sincerely,

"F. PITCHER, President. (Signed)

"I. G. O'DONOGHUE, Secretary. "GEO. COGHILL, Treasurer."

COMMONWEALTH MILITARY SURVEY.—For some military survey of the Commonwealth has been in progress, and recently some of the resulting maps have been published. Copies of some of these have been exhibited at recent Club meetings; but, as the maps are particularly useful to ramblers such as field naturalists and others, it may be of service to place a few particulars on record. The maps are on the generous scale of one mile to one inch, and thus allow for greater detail than has hitherto been attempted on the official maps of any of the States. In this they resemble the famous Ordnance maps of Great Britain. All existing roads are shown, with